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ABSTRACT

Faculty consistency is defined as a faculty member's educational background and professional activity being in the same department as the department of teaching appointment. Data on full-time teaching faculty at research and doctoral-granting universities holding a single appointment in the departments of chemistry, physics, political science, and sociology from the 1972-73 American Council on Education faculty survey were analyzed for this factor. A total of 2560 faculty members were included. Sixteen measures relating to undergraduate teaching goals and six relating to research activity were extracted from the data. It was found that consistent faculty have teaching goals primarily concerned with discipline (subject-area) matters; inconsistent faculty have goals more closely related to general preparation for life. Consistent faculty tended to have greater research productivity. Further research on the concept and existence of faculty consistency as a distinguishing faculty characteristic is recommended, especially as it relates to departmental prestige, job satisfaction, perceptions of departmental goals, and promotion and tenure decisions. A list of references, data tables, and statistical analyses are included. (MSE)

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AN ANALYSIS OF FACULTY CONSISTENCY IN THE ACADEMIC PROFESSIONS

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Over the course of the last decade, several theoretical constructs have been developed to help researchers in higher education advance our understanding and knowledge of the academic professions and faculty characteristics. These theories have succeeded to a great extent in alleviating the theoretical vacuum typical of prior investigations of these areas (Cf. Donald Light, 1974).

Lodahl and Gordon (1972, 1973) explored the disciplinary differences between the physical and social sciences by applying Kuhn's (1970) concept of paradigm, ordering these academic disciplines according to the degree of agreement within each discipline on matters such as appropriate topics of study, research priorities, and acceptable methodologies. Using this scheme, researchers have examined questions ranging from the varying importance of and standards for publications across disciplines (Pfeffer, Leong, and Strehl, 1976; Neuman, 1977, 1977a) and factors associated with and changes in departmental prestige (Beyer and Snipper, 1974; Beyer and Stevens, 1977) to voting patterns in a university senate (Brewster and Thompson, 1978).

Anthony Biglan (1973, 1973a), using a concept similar to paradigm with an additional two criteria, categorized academic disciplines three-dimensionally based on subject matter characteristics (hard/soft, pure/applied, life/non-life). Employing Biglan's theory, investigators have looked at the goal orientations of

departments and perceived administrative roles of department chairmen (Smart and Elton, 1975, 1976), and academic reward structures (Smart and McLaughlin, 1978).

These theories, however, concern themselves primarily with faculty members in groups (i.e. departments) rather than as individuals. The danger, therefore, is to make inferences and generalizations about faculty that may overlook individual differences. To avoid this difficulty, many researchers have turned to the personality-based theory developed by John Holland (1973), looking at the academic professions in terms of individual characteristics.

Holland's theory characterizes individuals and professional environments according to six personality types. Using these two characterizations, Holland succeeded in predicting for individuals such things as vocational choice, personal competence, social behavior, and susceptibility to influence. Holland's theory enabled other researchers to explore individualistic concerns such as job satisfaction in college and unviersity departments (Smart, 1975) and faculty workloads (Hesseldenz, 1976).

Yet Holland's theory, too, presents difficulties when researchers seek to learn about individual faculty. As Holland's theory has been used in the higher education literature, faculty members have been classified by personality type based on their departmental affiliation. While departmental environments can legitimately be typed according to the "personality" of the faculty majority, there is no guarantee that a specific faculty member will be a part of that majority; the typing of that

individual, therefore, could be in error. The only remedy is to ask each faculty member to take Holland's inventory of vocational preference, a task that would be cumbersome and time-consuming if not impractical.

A second difficulty with Holland's theory is its intrinsically global nature. That is, "Investigative" faculty, for example, will be "Investigative" regardless of what discipline they are affiliated with and hence part of a larger group that transcends departmental distinctions.

Surprisingly, one solution to the apparent impasse was suggested over twenty years ago by Alvin Gouldner (1957, 1958). By focusing on the social roles of individuals in organizations, dichotomizing the exhibited behavior on the bases of loyalty to the organization, commitment to professional skills and values, and reference group orientation, Gouldner developed a theory whereby he classified individuals as either "cosmopolitans" or "locals"--those whose behaviors, values, and commitments are primarily tied to their disciplines and extend beyond the boundaries of the organization, or those whose attention is primarily directed inward toward the institution.

Gouldner's theory, however, has not been widely employed in studying faculty, the authors believe, for two important reasons. First, individuals in an organization cannot be quickly and easily classified without time-consuming groundwork. Second, the theory is too institutionally specific and does not lend itself to generalization beyond a single organizational structure.

One possible solution to the problems thusfar discussed has been offered by Lewis and Leverenz (1979), who proposed a concept of academic consistency based on faculty educational background and professional activity. Consistency was operationally defined as a faculty member's educational background and professional activity being in the same department as the department of teaching appointment; inconsistency was operationally defined as a faculty member's background and activity being in some other field than the department of teaching appointment.

Lewis and Leverenz found that faculty members could be effectively dichotomized on the basis of graduate degree major and principal teaching field. In addition, Lewis and Leverenz suggested that the consistency concept might provide a useful basis for exploring faculty differences within specific departments since it would avoid the problems discussed above by being based truly on individual differences within departments or personality types.

This study seeks to determine if and to what extent the concept has potential for use in examining individual faculty after initial sorting by department according to existing theory.

Because teaching and research constitute the major duties of college and university faculty members, this paper focuses on consistency/inconsistency differences based on graduate majors and teaching fields of faculty for selected teaching and research indicators.

DATA

The data employed in this study were taken from the 1972-1973

faculty survey conducted by the American Council on Education. Full-time teaching faculty at research and doctoral-granting universities (Carnegie Types I, II, III, and IV) who held a single teaching appointment in the departments of chemistry, physics, political science, or sociology were selected from the A.C.E. data base. Following earlier research by Lodahl and Gordon (1972, 1973) and Kuhn (1970) paradigm development was chosen to differentiate and select these departments for use in this study.

A total of 2560 faculty met the selection criteria. Of this number 30.5% (n = 781) were in chemistry, 26.5% (n = 679) were in physics, 23.7% (n = 606) in political science, and 19.3% (n = 494) in sociology. The faculty from the high paradigm disciplines (chemistry and physics) were collapsed into one group representing 57% (n = 1460) of the sample, while the two low paradigm disciplines (political science and sociology) were combined into a second group representing 43% (n = 1100) of the sample.

METHODOLOGY

The sample subjects were classified as either consistent or inconsistent based on graduate major (educational background) and principal teaching field (professional activity). These two consistency/inconsistency indicators were employed as dependent variables in the study.

Sixteen measures relating to teaching goals and six measures relating to research output were extracted from the A.C.E. data base on each of the sample subjects (see Table I). These measures were used in the study as independent variables. The teaching items

assessed the respondent's personal teaching goals in undergraduate

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INSERT TABLE I

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instruction. Each item was rated on a 1 to 4 scale with 1 representing "not important" and 4 representing "essential." The research items were chosen as indicative of research productivity. With the exception of the last item, which elicited a yes/no response, each item was measured on a graduated categorically quantitative scale. Thus, all of the independent variables in the study represented measurements at least at the ordinal level, while the two dependent variables were dichotomous.

The technique of stepwise discriminant analysis was employed to investigate the differences between faculty classified as consistent and those classified as inconsistent by graduate major and principal teaching field. These two dependent variables were subjected to separate but identical analyses for both low and high paradigm groups. Further, the teaching goal items and the research indicators were considered different predictor sets and each was analyzed separately. Thus, a total of eight different stepwise discriminant analyses were computed. Four of these analyses used graduate major as the dependent variable: the low paradigm group using separately the research indicators and teaching goals as predictors, the high paradigm group likewise using the research indicators and teaching goals as indicators. Four identical analyses were computed with principal teaching field as the dependent variable. The .05 alpha level was used in all analyses as the criterion for entry of the

predictor variables into the model.

In each of the eight analyses, a chi-square test of the Wilkes' Lambda statistic was used to assess the appropriateness of the discriminant function. The .01 alpha level was employed as the acceptable significance criterion for this test. For each of the significant functions the standardized coefficients of the predictors chosen through the stepwise process were examined. By comparing the similarities of the signs of the coefficients with the signs of the group centroids, the predictor was classified as either indicating consistent or inconsistent group affiliation. In addition, the magnitude of the coefficient was examined to reveal the strength of its associated predictor in the discriminant function. Using these two pieces of information for all of the analyses collectively, a profile of the differences between consistent and inconsistent faculty was compiled.

RESULTS

Table II reports the results of the stepwise discriminant analyses for the low paradigm group using teaching goals as the predictor set. The function with graduate major as the dependent variable (top half of table) is significant beyond the .0001 alpha

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INSERT TABLE II

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level. Only two teaching goals were selected by the stepwise procedure: "develop the student's moral character" and "provide the community with skilled human resources." The canonical correlation for this function was a modest .1782. The average

(centroid) of the consistent group on this function was -.05041, while the average of the inconsistent group was .64927.

Since both of the chosen teaching goals exhibited a positive sign, they predicted in the direction of the inconsistent group. The goal concerning skilled resources for the community is better than 150% more important in the model than the goal concerning moral character as reflected in the magnitude of their respective coefficients.

The discriminant function based on principal teaching field for the teaching goal predictors is represented in the lower half of Table II. Again, the significance level is beyond .0001. The canonical correlation for this model is .1520. Of the three goals selected by the stepwise criterion, two ("prepare students for employment" and "achieve deeper levels of student understanding" are indicative of inconsistent faculty, while the third ("provide tools for evaluation of society") is reflected in consistent faculty. All three goals contributed approximately equally to the model.

These results suggest that inconsistent faculty have teaching goals associated with non-disciplinary concerns. And while providing tools to evaluate society, a predictor of consistency, may likewise seem to be a non-disciplinary goal, it should be remembered that societal evaluation is in fact an expected disciplinary concern for the fields of political science and sociology.

The discriminant analysis for the low paradigm disciplines employing principal teaching field as the dependent variable and the research indicators as predictors is presented in Table III.

INSERT TABLE III

This discriminant function is significant at an alpha level beyond .001, with an associated canonical correlation of .1583. Of the six predictor variables, two ("number of published books, manuals, or monographs" and "engaged in research in the last 12 months") were chosen for inclusion in the model by the stepwise procedure. Both of these indicators exhibited the same sign as that of the centroid of the consistent faculty. The variable "engaged in research in the last 12 months" is twice as important in this function as the other variable, "number of books . . . monographs." It would appear from this analysis, then, that the low paradigm faculty teaching in their discipline are more productive than those teaching in outside fields.

The analysis based on graduate major using research indicators as predictors selected no variables at the .05 level. Thus, there is no table presented for this analysis. It can be concluded that based on a discriminant analysis approach, there are no differences between faculty with degrees in the discipline of their teaching appointment (consistent individuals) and those with degrees outside the discipline (inconsistent individuals) with respect to research productivity.

Table IV presents the discriminant analysis for the high paradigm group with teaching goals as independent variables. In the top half of the table graduate major is used to distinguish consistent from inconsistent faculty. Three goals were selected for this model at

INSERT TABLE IV

the .05 level: "prepare students for employment," "develop responsible citizens," and "prepare students for family living." These three goals collectively discriminate between consistent and inconsistent faculty at a significance level of less than .0001. The modest relationship between the independent and dependent variables is reflected by a canonical correlation of .1438. Concern with "preparing students for employment" is characteristic of faculty with degrees in the discipline of teaching appointment (consistents), whereas "developing responsible citizens" and "preparation for family living" is of greater concern to faculty with degrees in other areas (inconsistents). All three of the chosen predictors exhibit roughly equal influence in the model.

The lower half of Table IV reports the results of a similar analysis using principal teaching field to define consistent and inconsistent groups. The significance of this function is .0003, with a weak canonical correlation of .1168. Again, inconsistent faculty are more interested in "preparing students for family living." Consistent faculty are more interested in "mastering knowledge in the discipline." The prediction of inconsistent faculty is somewhat less important to the model than is the consistency predictor.

The results of the analyses of the high paradigm group relative to teaching goals were similar to those of the analyses on the low

paradigm group in that consistent faculty seem to have a greater concern for strictly disciplinary matters than the inconsistent faculty.

No discriminant analyses were significant for the high paradigm group using reserach predictors. Thus there is no difference in research productivity between consistent and inconsistent faculty, regardless of their graduate major or principal teaching field.

DISCUSSION

These results reveal that the concept of consistency is useful in distinguishing faculty within disciplines, primarily in terms of teaching goals, but to a limited extent also on the basis of research productivity. In the low paradigm disciplines faculty members can be differentiated on the basis of both teaching goals and research productivity. Consistent faculty, as defined in terms of both dependent variables in the study, have teaching goals primarily concerned with disciplinary matters, much like Gouldner's cosmopolitans. Inconsistent faculty, on the other hand, perceive teaching goals to be general preparation for life. And while inconsistent faculty might not necessarily thereby be exactly aligned with Gouldner's locals, they are distinctly dissimilar to the cosmopolitans.

In terms of research productivity, consistent faculty again parallel the cosmopolitans by their greater productivity. While greater research effort alone does not necessarily preclude a primary commitment to the local institution, it is considered a major avenue to recognition in one's field, recognition that comes from sources outside the milieu of the organization.

The consistency concept worked less completely at the high paradigm level. That is, no differences appeared relative to research productivity. The concept did, however, help to distinguish between consistent and inconsistent faculty members on both dependent variables on the basis of teaching goals. As in the low paradigm group, consistent faculty saw worthwhile goals of teaching as discipline-oriented. Also similar to the low paradigm group was the greater emphasis placed by the high paradigm inconsistent faculty on goals aimed at general educational preparation.

CONCLUSION

The concept of consistency is thusfar not a theory. Yet, the concept does appear to have potential for isolating certain characteristics of faculty in selected disciplines. In addition, the concept has the advantage of being easy to employ since it requires little more than a look at faculty vitae to accomplish the initial classifications and is based on single rather than multiple disciplines. Further research, however, is strongly recommended.

The consistency concept is descriptive. Because faculty may come to be classified as consistent or inconsistent for a wide variety of reasons (personal choice, institutional reorganization, or the development of new fields of study, for example), some explanatory framework should be developed to provide an understanding of why and how faculty arrive at a particular classification. Second, the present study looked at only four disciplines and used Lodahl and Gordon for initial departmental sorting. Replication

is suggested to determine if the concept can be employed in a wider spectrum of academic areas and/or using a different sorting scheme (eg. Holland's or Biglan's). Finally, the connection beteen the concept of consistency and established theory bases--most noticeably Gouldner's--needs to be made stronger.

Further attention to the concept of consistency has the potential for producing a more comprehensive picture of the academic professions. What is the relationship between departmental prestige and the ratio of consistent to inconsistent faculty? Does consistency have a bearing on faculty job satisfaction? on perceptions of departmental goals? on promotion and tenure decisions? Finding answers to these and other important questions could well start with further attention to truly individual-based constructs such as the consistency concept.

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TABLE 1

Predictor Variables

Undergraduate Teaching Goals
Master Knowledge in a Discipline
Convey a Basic Appreciation of the Liberal Arts
Increase the Desire and Ability to Undertake Self-directed Learning
Develop the Ability to Think Clearly
Develop Creative Capacities
Develop the Ability to Pursue Research
Prepare Students for Employment After College
Prepare Students for Graduate or Advance Education
Develop Moral Character
Develop Religious Beliefs or Convictions
Provide for Students' Emotional Development
Achieve Deeper Levels of Students' Self-understanding
Develop Responsible Citizens
Provide the Community with Skilled Human Resources
Provide Tools for the Critical Evaluation of Contemporary Society
Prepare Students for Family Living
Research Indicators
Number of Hours, on the Average Per Week, Spent on Research and Scholarly Writing
Number of Articles Published in Academic or Professional Journals
Number of Published Books, Manuals, or Monographs
Number of Professional Writings Published in Last Two Years
Have You Engaged in Any Research in the Last Twelve Months?

TABLE II

Stepwise Discriminant Analyses on Teaching Goals for Low Paradigm Dicsiplines

Consistency Defined by Graduate Major

Teaching Goal		Standardized Function Coefficient*
Develop Moral Character		.48521
Provide Community with Skilled Human Resources		.75614
Group	**N**	**Centroid**
Inconsistent	75	.64927
Consistent	966	-.05041

Consistency Defined by Principal Teaching Field

Teaching Goal		Standardized Function Coefficient**
Prepare Students for Employment After College		-.59423
Achieve Deeper Levels of Students' Self-understanding		-.63853
Provide Tools for Critical Evaluation of Contemporary Society		.61682
Group	**N**	**Centroid**
Inconsistent	46	-.71478
Consistent	996	.03301

*Canonical Correlation = .1782, Chi-square = 33.49 with 2 df

**Canonical Correlation = .1520, Chi-square = 24.27 with 3 df

TABLE III

Stepwise Discriminant Analysis on Research Indicators for Low Paradigm Disciplines

Consistency Defined by Principal Teaching Field

Research Indicator		Standardized Function Coefficient*
Number of Published Books, Manuals, or Monographs		.40185
Engaged in Any Research in Last 12 Months		.87976
Group	**N**	**Centroid**
Inconsistent	53	-.70239
Consistent	1019	.03653

*Canonical Correlation = .1583, Chi-square = 27.14 with 2 df

TABLE IV

Stepwise Discriminant Analysis on Teaching Goals
for High Paradigm Disciplines

Consistency Defined by Graduate Major

Teaching Goal		Standardized Function Coefficient*
Prepare Students for Employment After College		.51115
Develop Responsible Citizens		-.57324
Prepare Students for Family Living		-.63899
Group	**N**	**Centroid**
Inconsistent	59	-.67617
Consistent	1279	.03119

Consistency Defined by Principal Teaching Field

Teaching Goal		Standardized Function Coefficient**
Master Knowledge in Discipline		.80300
Prepare Students for Family Living		-.64350
Group	**N**	**Centroid**
Inconsistent	47	-.61729
Consistent	1297	.02237

*Canonical Correlation = .1438, Chi-square = 27.89 with 3 df

**Canonical Correlation = .1168, Chi-square = 18.42 with 2 df